

- 9 -

**CLAIMS:**

1. A tool component comprising a working layer of ultra-hard abrasive bonded to a substrate along an interface, the working layer presenting a working surface and a periphery around the working surface which provides a cutting edge for the insert, the working layer of ultra-hard abrasive having a first region extending into the working layer from the working surface, and a second region in contact with the first region, the wear resistance of the first region being less than that of the second region, wherein the wear resistance of the first region is between 50% and 95% of that of the second region.
2. A tool component according to claim 1, wherein the wear resistance of the first region is between 60% and 90% of that of the second region.
3. A tool component according to claim 2, wherein the wear resistance of the first region is between 70% and 89% of that of the second region.
4. A tool component according to any one of the preceding claims, wherein the first and second regions comprise successive layers extending from the working surface into the working layer.
5. A tool component according to claim 4, wherein the first region extends to a depth no more than about 750 microns from the working surface.
6. A tool component according to claim 5, wherein the first region extends to a depth no more than about 500 microns from the working surface.

- 10 -

7. A tool component according to claim 6, wherein the first region extends to a depth of about 50 to about 250 microns from the working surface.
8. A tool component according to any one of claims 1 to 7, wherein the first and second regions are both regions of PCD and contain catalyst/solvent, the amount of catalyst/solvent in the first region being higher than that in the second region.
9. A tool component according to any one of claims 1 to 7, wherein the first region has ultra-hard abrasive particles of a unimodal particle size distribution only, and the second region has ultra-hard abrasive particles which have a multimodal size distribution.
10. A tool component according to claim 8 or claim 9, wherein the second region has a range of particle sizes that does not differ materially from the range of particle sizes in the first region.
11. A tool component according to any one of claims 1 to 7, wherein both the first and second regions comprise ultra-hard abrasive particles of more than one particle size, the size distribution of the particles in the first region being coarser than that of the particles in the second region.
12. A tool component according to claim 11, wherein the ultra-hard abrasive in the first region is made from a mass which comprises at least 25% by mass particles having an average particles size in the range 10 to 100 microns and consisting of particles having three different average particle sizes and at least 4% by mass of the particles.
13. A tool component according to claim 11 or claim 12, wherein the ultra-hard abrasive in the second region is made from a mass of particles which has an average particle size of 20 microns and

- 11 -

consists of particles having at least three different average particle sizes.

14. A tool component according to any one of claims 1 to 7, wherein the ultra-hard abrasive is PCD and the thermal stability of the PCD in the first region is less than that of the PCD in the second region.
15. A tool component according to claim 14, wherein a metal or other material which has thermal expansion properties significantly different to that of PCD is provided in the first region.
16. A tool component according to claim 14, wherein the first region has a second phase which includes in it a metal which can react with the diamond under high temperature.
17. A tool component according to any one of claims 1 to 7, wherein the ultra-hard abrasive is PCD and sinter quality of the PCD in the first region is compromised by the introduction of a compromising material which is not introduced into the second region.
18. A tool component according to claim 17, wherein the compromising material is an agent that acts as an inhibitor that interferes with the sintering of the first region or as a catalyst that encourages sintering, but at a too rapid rate, to compromise the sintering of the first region.
19. A tool component according to any one of claims 1 to 7, wherein both the first and second regions are regions of PCD containing a catalyst/solvent in a second phase, wherein the catalyst/solvent in the first region is cobalt with another transition metal, or the other transition metal; and the catalyst/solvent in the second region is essentially cobalt.

- 12 -

20. A tool component according to claim 19, wherein the other transition metal is nickel.